

**Enclosure 2: Summary of Public Comments and EPA's Responses**

EPA published two notices in the *Federal Register* [78 *Fed. Reg.* 35929 (June 14, 2013) and 78 *Fed. Reg.* 56695 (September 13, 2013)] requesting public comment on its proposed decision to add water quality limited segments impaired by metal pollutants to Indiana's 2010 303(d) list. The initial comment period lasted 32 days, from June 14 until July 15, 2013. During this comment period, EPA received comments from the Indiana Manufacturers Association, Inc. (IMA), the Sierra Club, Hoosier Chapter (SC), and the Indiana Coal Council (ICC).

In response to a request from the ICC for additional time in which to prepare comments, EPA reopened the public comment period from September 13 until October 15, 2013, allowing an additional 33 days for the public to provide comments. No additional comments were received during this additional comment period.

For the purposes of this responsiveness summary, EPA has grouped and summarized the main comments received during the comment period. EPA grouped comments that raised similar or related issues into three major issue sections. Interested parties are encouraged to review the full text of the comments received, which will be included as part of EPA's administrative record on its final action on Indiana's 2010 Section 303(d) list. EPA's responses are provided immediately following each comment.

***A) Use of derived criteria as a basis for listing impaired waterbodies*****Comment #1:**

EPA's decision relating to the use of derived criteria as a basis for listing waters as impaired is contrary to Indiana Law because derived criteria are not water quality standards and have not been promulgated and afforded full due process. Also, there has not been adequate notice and opportunity for public comment with respect to the derived criteria. (ICC)

**EPA Response #1:**

Federal regulations under 40 CFR 130.7(b)(3) state that "[f]or the purposes of listing waters under §130.7(b), the term 'water quality standard applicable to such waters' and 'applicable water quality standards' refer to those water quality standards (WQS) established under section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements." The State of Indiana's WQS include procedures<sup>1</sup> for calculation of "derived criteria," which are numeric expressions of the narrative criteria for substances for which numeric criteria are not specified in the WQS. Indiana's narrative criteria and the procedures for developing "derived criteria" have been adopted into the State's WQS at 327 IAC 2, promulgated in accordance with Indiana law (under the authority of IC 13-14-9) and approved by EPA. With respect to metals, Indiana has calculated derived criteria for aluminum, iron and manganese. The rulemaking procedures at IC 13-14-9 gave the public the opportunity to comment on and participate in the adoption of the WQS, including the derived criteria procedures. Likewise, when IDEM uses derived criteria for 305(b) assessment and 303(d) listing decisions it does not need to promulgate administrative rules under IC 4-22-2, but rather can apply the existing WQS. Therefore, due process was satisfied by the adoption of the "derived criteria" procedures into Indiana's WQS, and

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<sup>1</sup> Procedures for deriving Tier I criteria and Tier II values are described in: For waters in the Great Lakes Basin, 327 IAC 2-1.5-Sections 11 and 13 through 16 (for Tier I); and Sections 12-16 (for Tier II). For waters outside the Great Lakes Basin, 327 IAC 2-1 Sections 8.2, 8.3 and 8.9.

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derived criteria calculated using these procedures can be used for all purposes for which WQS are used, which includes 303(d) listing decisions.

There has been adequate notice and opportunity for public comment with respect to the use of derived criteria at issue here. First, the public had opportunity to comment on the derived criteria methodology when IDEM proposed to adopt it into the State's WQS. Second, the public had the opportunity to comment on the use of the derived criteria when the State noticed its proposed 303(d) list of impaired waters.

**Comment #2:**

EPA should encourage IDEM in the process of developing criteria for iron and aluminum, and respect IDEM's autonomy in developing these regulations. (IMA)

**EPA Response #2:**

EPA encourages state adoption of WQS through its WQS regulation (40 CFR §131.11) and its criteria and program guidance to the states on appropriate parametric coverage in state water quality standards. In its efforts to promote and assist state adoption of WQS for toxic pollutants, which include iron and aluminum, EPA developed and issued guidance to the states on acceptable implementation procedures for several sections of the Act, including sections 303(c)(2)(B) and 304(l). EPA's section 303(c)(2)(B) program guidance<sup>2</sup> identified three options that could be used by a state to meet the requirement that the state adopt toxic pollutant criteria for "the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the state, as necessary to support such designated uses". The provided options included:

- Option 1.** Adopt Statewide numeric criteria in State Water Quality Standards for all section 307(a) toxic pollutants for which EPA has developed criteria guidance, regardless of whether the pollutants are known to be present.
- Option 2.** Adopt chemical-specific numeric criteria for priority toxic pollutants that are the subject of EPA section 304(a) criteria guidance, where the State determines based on available information that the pollutants are present or discharged and can reasonably be expected to interfere with designated uses.
- Option 3.** Adopt a procedure to be applied to a narrative water quality standard provision prohibiting toxicity in receiving waters. Such procedures would be used by the State in calculating derived numeric criteria which must be used for all purposes under section 303(c) of the CWA. At a minimum, such criteria need to be developed for section 307(a) toxic pollutants, as necessary to support designated uses, where these pollutants are discharged or present in the affected waters and could reasonably be expected to interfere with designated uses.

In the case of iron and aluminum, IDEM selected to use "Option 3" to derive water quality criteria values for these metals in accordance with Indiana law (IAC 13-14-9), and federal regulation (40 CFR 131.11). The combination of a narrative standard (e.g., "free from toxics in toxic amounts") and an approved translator mechanism as part of a State's water quality standards (e.g. "derived criteria procedures") satisfies the requirements of section 303(c)(2)(B).

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<sup>2</sup> The Guidance for State implementation of water quality standards for CWA section 303(C)(2)(B) (EPA, December 12, 1988).

**Enclosure 2: Summary of Public Comments and EPA's Responses****Comment #3:**

EPA's decision to add metal-impaired waters to Indiana's 2010 303(d) list based on derived criteria is scientifically sound and fully justified. (SC)

**EPA Response #3:**

As discussed in response to #1, EPA agrees with the comment.

**B) *Use of total recoverable versus dissolved metal sampling data results as a basis for listing impaired waterbodies for not attaining metal criteria*<sup>3</sup>****Comment #4:**

EPA's decision relating to the use of total recoverable metals data as a basis for listing waters as impaired is inadequate because:

- a) There is a question of where the line is to be drawn on using existing and readily available data and information, and whether that includes data that is not reliable or obtained using bad science. (ICC)
- b) The use of total recoverable metals data distorts the picture of whether a metal concentration is toxic and requires the State to list streams that are not actually impaired. (ICC)
- c) Listing a stream based on total recoverable metals data could be a tremendous waste of resources and time. (ICC)
- d) EPA's suggested approaches for using the existing total recoverable data to list waters based on metals are inappropriate. (ICC)

**EPA Response #4:**

EPA's decision to use total recoverable metals data as a basis for listing waters as impaired is appropriate.

- a) Federal regulations at 40 CFR §130.7(b)(5) state that "[e]ach State shall assemble and evaluate all existing and readily available water quality-related data and information to develop the list required by §§130.7(b)(1) and 130.7(b)(2)."

According to the EPA's 2006 Integrated Report Guidance (IRG)<sup>4</sup>, the definition for "existing and readily available water quality-related data and information" includes but is not limited to:

- Information found in watershed plans and other types of water quality management plans; Information contained in reports and databases developed pursuant to the CWA, including:

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<sup>3</sup> Indiana's applicable metal criteria for metal assessments include both narrative criteria ("derived criteria") and numeric criteria (total recoverable metal criteria and dissolved metal criteria).

Indiana's metal WQ criteria include:

Total recoverable metal numeric criteria for mercury and selenium for waters outside the Great Lakes Basin;

Dissolved metal numeric criteria for arsenic (III), cadmium, chromium III, chromium (VI), copper, lead, nickel, silver and zinc for waters in and outside the Great Lakes Basin. Also dissolved metal numeric criteria for mercury and selenium for waters in the Great Lakes Basin;

Calculated derived total recoverable metal criteria for aluminum, iron and manganese.

<sup>4</sup> The Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act (EPA, July 29, 2005).

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Integrated Reports, separate section 305(b) reports, a section 303(d) list, a section 314 lakes assessment, a section 319(a) nonpoint assessment, STORET, the ADB, etc.;

- Information appearing in reports and databases developed pursuant to other federal statutes and programs, including but not limited to SDWA section 1453 source water assessments, Superfund and Resource Conservation and Recovery Act reports, the Toxic Release Inventory, USDA programs, and USGS programs;
- Restrictions and/or advisories regarding shellfish harvesting and water-based recreation;
- Any *observed effect* (see definition in the 2006 IRG glossary);
- Results from site-specific biological, chemical, and physical monitoring and surveys;
- Results of utilization of remote-sensing technology efforts; and
- Results of use of predicative tools/ extrapolative tools (e.g., probabilistic surveys, landscape models, dilution calculations and models estimating pollutant loadings and ambient water quality).

States are expected to evaluate all existing and readily available data and information by applying reasonable and scientifically sound data evaluation procedures to establish how it should be used in attempting to make WQS attainment status determinations. Such evaluation protocols should strike a balance between using high quality data, and using as much useful information about the condition of as many segments as possible.

With respect to metals, the bulk of existing and readily available data for Indiana's waters is in the form of total recoverable metals data. In addition, EPA's adoption of its Metals Policy<sup>5</sup> did not change the Agency's position that EPA's recommended total recoverable metal criteria, promulgated under section 304(a) of the CWA, continue to be scientifically defensible (EPA 823-B-96-007). EPA's Section 304(a) metal criteria, which were calculated using total recoverable metals data, provided guidance to the states to use in adopting WQS for metals. Therefore, EPA considers total recoverable metal data to be reliable and scientifically sound data to be used for 303(d) listing purposes.

- b) Total recoverable metals data include both the dissolved and particulate forms of the metal. EPA agrees that the dissolved fraction of a metal is generally expected to more closely approximate the bioavailable portion of the metal in the water column than its particulate form. Nevertheless, the toxicity of ambient particulate metal is unlikely to be zero. Factors such as desorption of metals at gill surface, and the chemical transformations that may occur between effluent and receiving water may influence the particulate phase contribution to the overall metal toxicity. Furthermore, a valid translator approach can be used to estimate the dissolved metal fraction from the total metals data (see below). In short, Indiana's total recoverable metals data constitute "existing and readily available water quality-related data and information". EPA evaluated these data and determined they are of sufficient quality to use for the purposes of evaluating metals criteria attainment and listing waters pursuant to Section 303(d) of the CWA and the regulations at 40 C.F.R. 130.7(b).

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<sup>5</sup> EPA Policy Memorandum: *Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria*, October 1, 1993.

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- c) EPA disagrees that it is an inefficient use of resources and time to use the existing and readily available total recoverable metals data. It is appropriate to use the available total recoverable metals data for listing decisions because:
- IDEM continues to primarily collect total recoverable metals sampling data in its ambient water quality monitoring program rather than dissolved metals data;
  - Total recoverable metals sampling data are needed to assess for the attainment of the water quality criteria for metals that continue to be expressed as total recoverable metal, which include the mercury and selenium numeric criteria for waters outside the Great Lakes Basin in Indiana's WQS<sup>6</sup>, and the narrative (calculated derived) criteria for aluminum, iron and manganese whose values are expressed as total recoverable metal;
  - There are valid conversion factors that can be used to estimate the ambient dissolved metal fraction from available total recoverable metals data;
  - IDEM's NPDES permit limits are typically expressed as total recoverable metals (40 CFR §122.45(c)).
- d) EPA disagrees with the comment that using existing total recoverable data to list waters is inappropriate. As discussed in its decision document<sup>7</sup>, EPA opted to use the metal translator approach with existing total recoverable data to assess for exceedances of dissolved metals criteria for copper, nickel, lead and zinc. EPA also used the existing total recoverable data to assess for exceedances of derived total recoverable metals criteria for aluminum, iron and manganese.

Indiana's dissolved criteria are based on the same data set as the original total recoverable metals criteria, which were based on measured total recoverable metals data. Indiana's dissolved criteria are calculated by multiplying the original total metal criteria by a "conversion factor" in order to represent only the dissolved fraction of the metals in the original laboratory tests. Therefore, EPA determined that the most appropriate approach for assessing waterbody attainment status with regard to dissolved metals criteria for copper, nickel, lead and zinc was to use the conversion factors in 327 IAC 2-1-6 as metal translators to estimate the dissolved metal fraction in the total metal data. [These calculations are contained in the administrative record supporting EPA's decision to list these waters.]

EPA also used existing total recoverable metal data to assess the waterbody attainment status with regard to the State's derived metals criteria for aluminum, iron and manganese. Since the calculated values for Indiana's derived metal criteria are expressed as total metals, EPA was able to compare the total metal data directly to the derived metals criteria. [These assessments are contained in the administrative record supporting EPA's decision to list these waters.]

For the reasons discussed above, the assessment approach EPA used to evaluate the total recoverable metal data supplied by IDEM, and to determine attainment of IDEM's metals criteria as they apply to the designated use (aquatic life) support status for the waters at issue, was appropriate.

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<sup>6</sup> 327 IAC 2-1-6, Table 6-1.

<sup>7</sup> EPA's Decision Document for the Partial Approval/Partial Disapproval of Indiana's 2010 303(d) List (May 8, 2013).

**Enclosure 2: Summary of Public Comments and EPA's Responses****Comment #5:**

EPA should respect IDEM's authority to use dissolved metals for purposes of 303(d) listings, and should not require the use of total recoverable metals data. (IMA)

**EPA Response #5:**

As part of the listing process and according to federal regulation (40 CFR §130.7(b)(6)(i-iv)), each state is required to provide documentation to the Regional Administrator, which must support the state's determination to list or not list its waters as required by §130.7(b)(1) and §130.7(b)(2). Upon request, a state must demonstrate good cause for not including a water or waters (40 CFR §130.7(b)(6)(iv)).

As a major component of this documentation, EPA considers the state's assessment methodology as it assesses whether the state conducted an adequate review of all existing and readily available water quality-related information, whether the factors that were used to make listing and removal decisions were reasonable, whether the process for evaluating different kinds of water quality-related data and information is sufficient, and whether the process for resolving jurisdictional disagreements is sufficient. If EPA finds that the state's methodology is inconsistent with its water quality standards, and its application has resulted in an improper 303(d) list, EPA may disapprove the list. EPA must review the list for consistency with the relevant provisions of the CWA and the regulations.

When reviewing the state's listing decisions, EPA considers all the information provided to support the state's determination, including any response provided by the state in response to EPA's request that it demonstrate "good cause" for not listing waters. This includes any data or information the state decided to not use to develop its list, and a case-specific rationale for its decision to not use the data in a particular WQS attainment status determination. After reviewing all of the information provided by the state, EPA may approve or disapprove the state's 303(d) list (40 CFR §130.7(d)(2)).

After evaluating Indiana's 2010 list and supporting documentation (i.e. listing assessment methodology, data and rationales), EPA determined that this documentation did not support the State's decision to not include a series of waters and associated metal pollutants on Indiana's 303(d) list. As discussed in its decision document<sup>8</sup>, EPA's review of Indiana's 2010 list found that the State did not consider "applicable water quality standards" pursuant to 40 CFR § 130.7(b)(3), did not evaluate existing and readily available water quality-related metals data and information to develop the 303(d) list pursuant to 40 CFR § 130.7(b)(5), and did not demonstrate good cause for not listing a group of water quality-limited segments impaired for metals pursuant to 40 CFR § 130.7(b)(6)<sup>9</sup>.

Also Refer to EPA Response #4 Sub-Items a) and b).

**Comment #6:**

The commenter agrees with EPA's decision to add metal-impaired waters to Indiana's 2010 303(d) list based on the analysis of total recoverable metals data. (SC)

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<sup>8</sup> EPA's Decision Document for the Partial Approval/Partial Disapproval of Indiana's 2010 303(d) List (May 8, 2013).

<sup>9</sup> See letter from U.S. EPA, to IDEM dated June 30, 2011, and response from IDEM to U.S. EPA, dated September 12, 2011.

**Enclosure 2: Summary of Public Comments and EPA's Responses****EPA Response #6:**

As discussed in the responses above, EPA agrees with the comment.

**C) *Other issues and considerations*****Comment #7:**

EPA's partial approval and partial disapproval of Indiana's 2010 303(d) list is in direct conflict with Lisa P. Jackson's May 9, 2009 Memorandum to EPA employees on scientific integrity, and does not adhere to the best available science. (ICC)

**EPA Response #7:**

EPA disagrees. In accordance with the CWA and EPA's regulations, waterbody listings should be based on considering the State's applicable water quality standards, and evaluating all existing and readily available water quality-related data and information. Indiana's applicable WQS for metals include numeric criteria and narrative criteria (which include procedures for calculating derived criteria) that have been approved by EPA. These criteria, established in accordance with EPA's guidance for toxic pollutant criteria, are scientifically sound, as they are based upon a technically and scientifically acceptable methodology. And with respect to metals, the existing and readily available data for Indiana's waters are predominantly in the form of total recoverable metals. In addition, EPA's approach for assessing whether the State's waters are attaining the State's metals criteria, specifically based on use of translators, is consistent with EPA guidance related to metals<sup>10</sup>.

Also refer to EPA Response #1; and EPA Response #4 Sub-Items a), b) and (d).

**Comment #8:**

EPA changes to the Indiana 2010 list are contrary to policy and ignore procedures that afford the public input. (IMA)

**EPA Response #8:**

EPA disagrees. There has been adequate notice and opportunity for public comment on the metal related issues responsible for EPA's proposed changes to Indiana 2010 list. First, the public had opportunity to comment on Indiana's water quality criteria, including the use of derived criteria, when IDEM proposed to adopt the State's WQS. Second, the public had the opportunity to comment when the State noticed its proposed 303(d) list of impaired waters, which included the metal impaired waters. Third, the public twice had the opportunity to comment when EPA noticed its proposed decision to add water quality limited segments and associated metal pollutants to the State's 303(d) list of impaired waters. Fourth, the public will have additional opportunity to comment when the State develops TMDLs for those impaired waters. Finally, individual permittees can comment and challenge any proposed effluent limits based upon the water quality criteria.

**Comment #9:**

EPA should revise the May 8, 2013 decision document. (IMA; ICC)

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<sup>10</sup> *The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion*, June 2006. EPA 823-B-96-007.

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EPA Response #9:

EPA is retaining its decision, issued on May 8, 2013, to partially approve and partially disapprove Indiana's 2010 Section 303(d) list, based on its review of the list and supporting documentation for consistency with the relevant provisions of the CWA and federal regulations. EPA continues to believe that it is appropriate to use derived criteria and total recoverable metals data for 303(d) listing decisions.

Also refer to EPA Response #5.